



United States
Environmental Protection
Agency

EPA-305-B-06-002
September 2006

INSPECTION TOOL FOR THE MISCELLANEOUS ORGANIC CHEMICAL MANUFACTURING NESHA Section 5.0

Air Compliance Branch
Compliance Assessment and Media Programs Division (CAMPD)
Office of Compliance (OC)
Office of Enforcement and Compliance Assurance (OECA)
U.S. Environmental Protection Agency Washington, DC 20460

5.0 Wastewater Systems

This section contains applicability and control flowcharts and inspection checklists for wastewater systems. Use Figure 5-1 to determine if a water-containing stream is wastewater. Use Figure 5-2 to determine if a wastewater stream is process wastewater or maintenance wastewater. For a process wastewater stream, use Figure 5-3 to determine if it is a Group 1 process wastewater stream that is subject to management and treatment requirements under subpart FFFF. Figures 5-4 through 5-6 identify the emission suppression requirements for waste management units (WMUs) that are used to convey, store, or treat Group 1 process wastewater streams. Figure 5-7 identifies treatment options for Group 1 process wastewater streams. Use Figure 5-8 to identify items of equipment that manage liquid streams in open systems within an MCPU that are subject to control requirements.

For each Group 1 process wastewater stream, use the applicable inspection checklists to determine compliance with the emission suppression and treatment requirements. The checklist in Table 5-1 is used to identify wastewater streams and residuals that are managed and treated in a similar manner. It is also used to identify the WMUs in the wastewater system for those streams and points you to the applicable checklists for those WMUs. Table 5-2 identifies the appropriate checklists for each type of waste management unit depending on the emission suppression technique that is used. Tables 5-3 through 5-7 present checklists for inspections of wastewater tanks, surface impoundments, containers, individual drain systems, and oil-water separators, respectively. Table 5-8 is a checklist for visual inspections of leaks from covers, fixed roofs, and enclosures that are used to suppress emissions from any type of WMU. Table 5-9 is a checklist for wastewater treatment systems that comply with the alternative requirements for wastewater that is Group 1 only for SHAP. Table 5-10 is a checklist for steam stripper treatment units, and Table 5-11 is a checklist for other types of treatment units.

This section also includes a checklist for equipment within a process that conveys or receives water streams that meet the flow rate and HAP concentration thresholds that are used to define Group 1 process wastewater streams. Table 5-12 is a checklist for emission suppression techniques that are specific to these items of equipment.

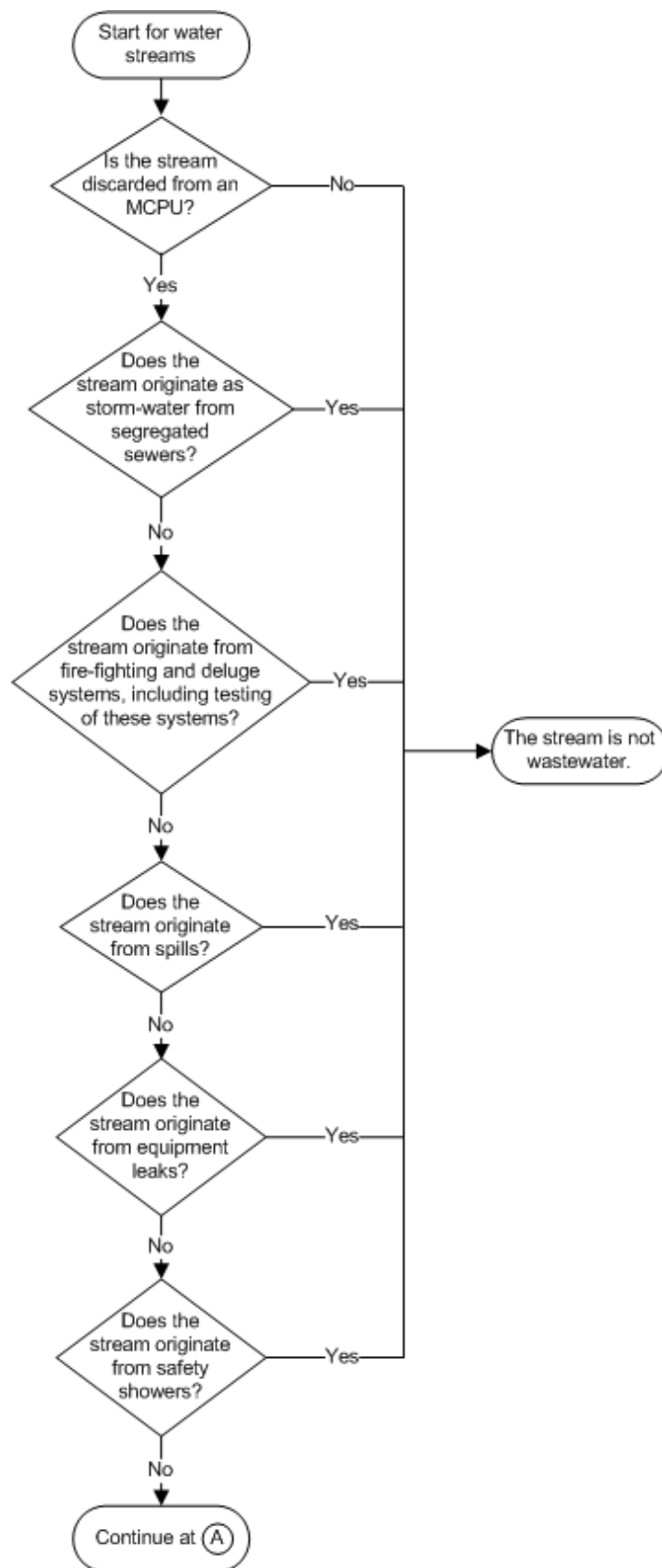


Figure 5-1. Applicability for wastewater.

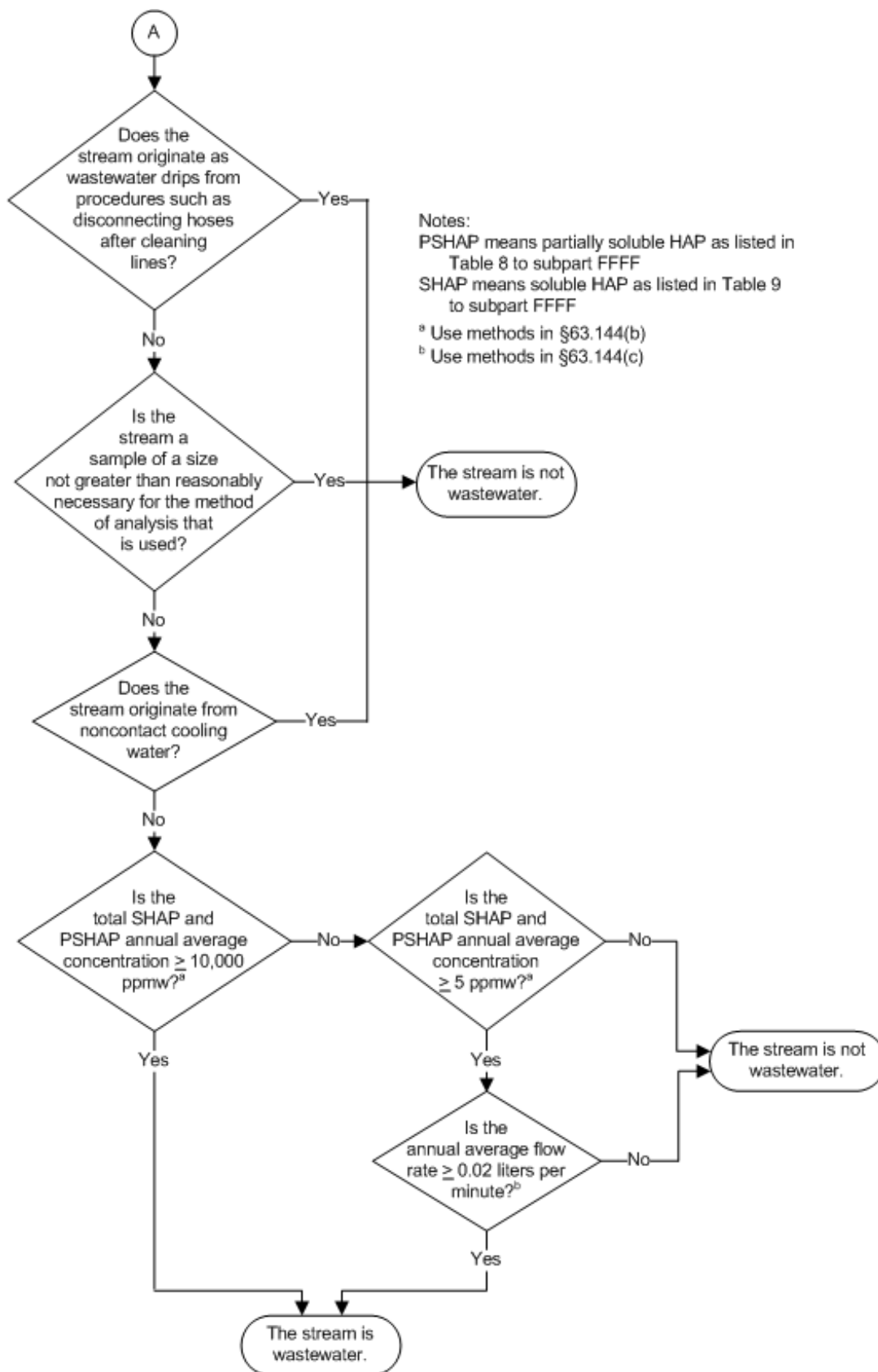


Figure 5-1. (continued)

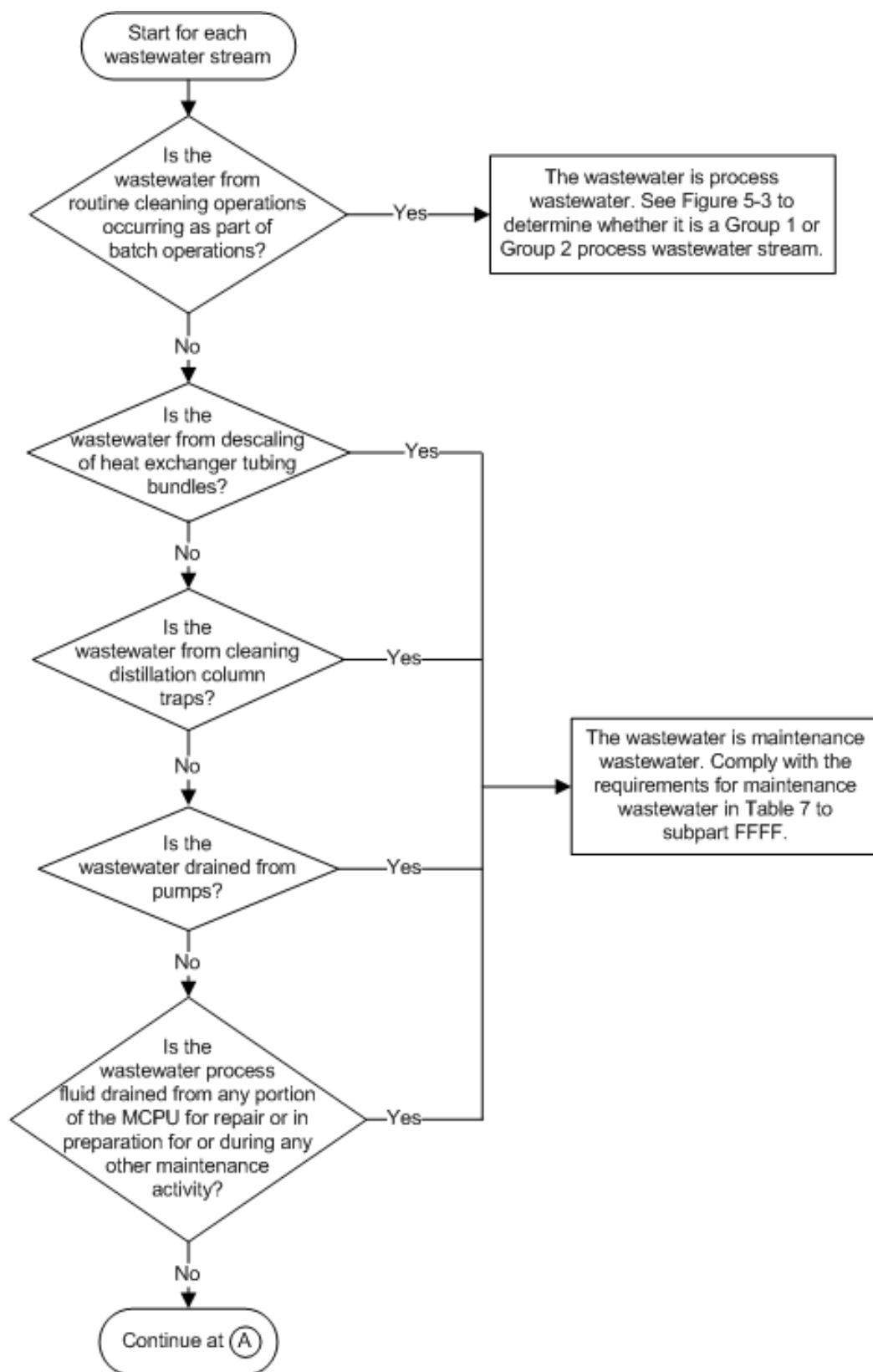


Figure 5-2. Applicability of process or maintenance wastewater.

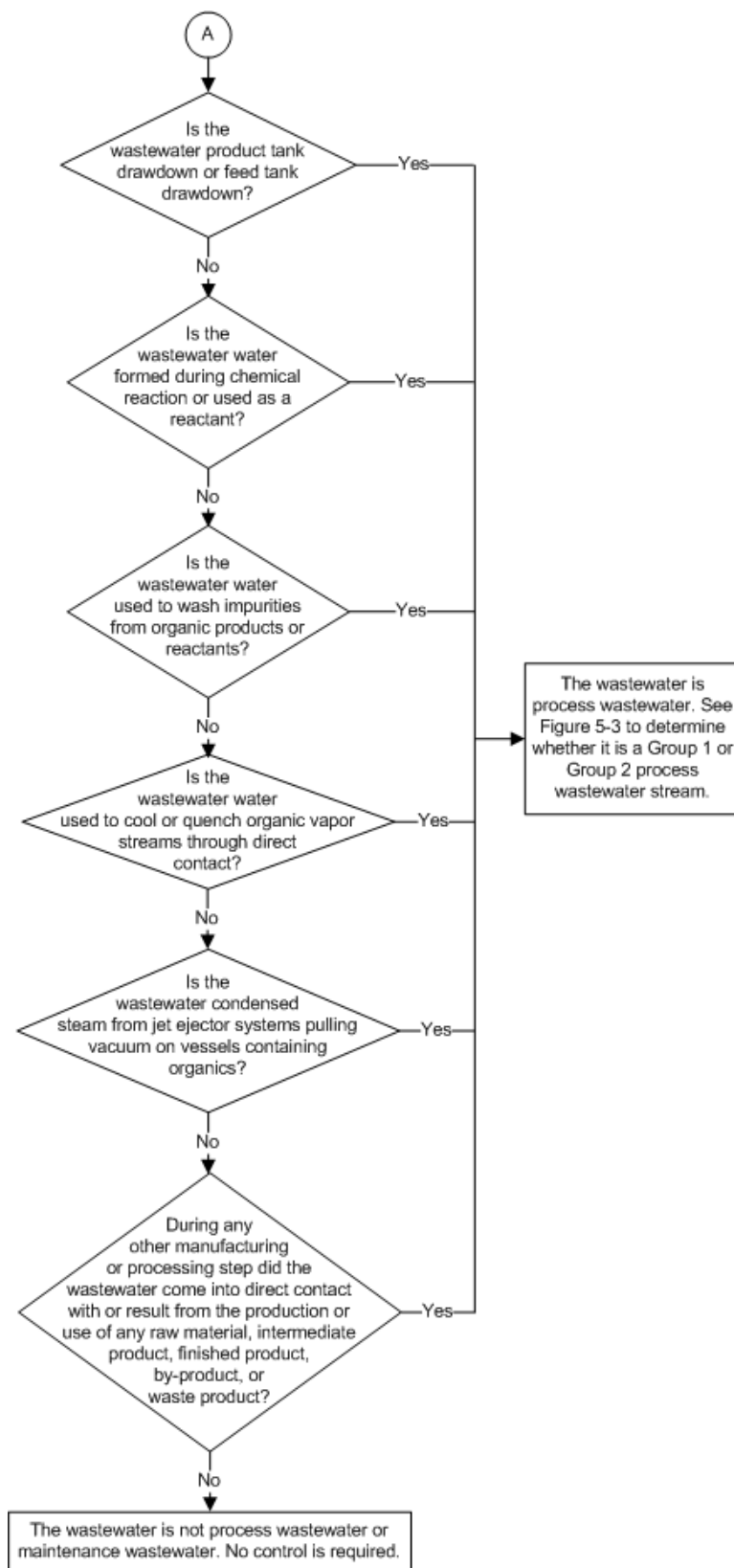


Figure 5-2. (continued)

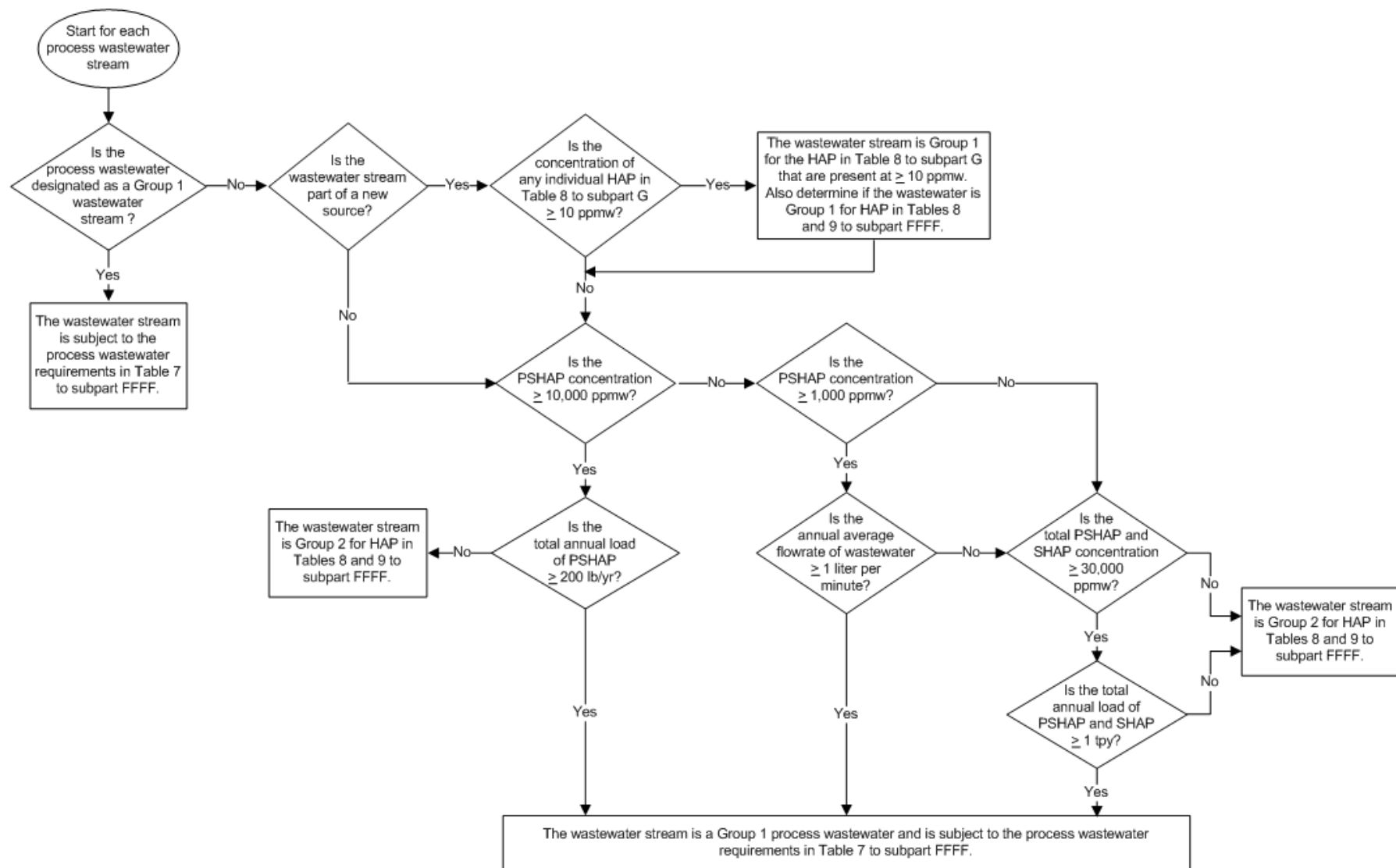
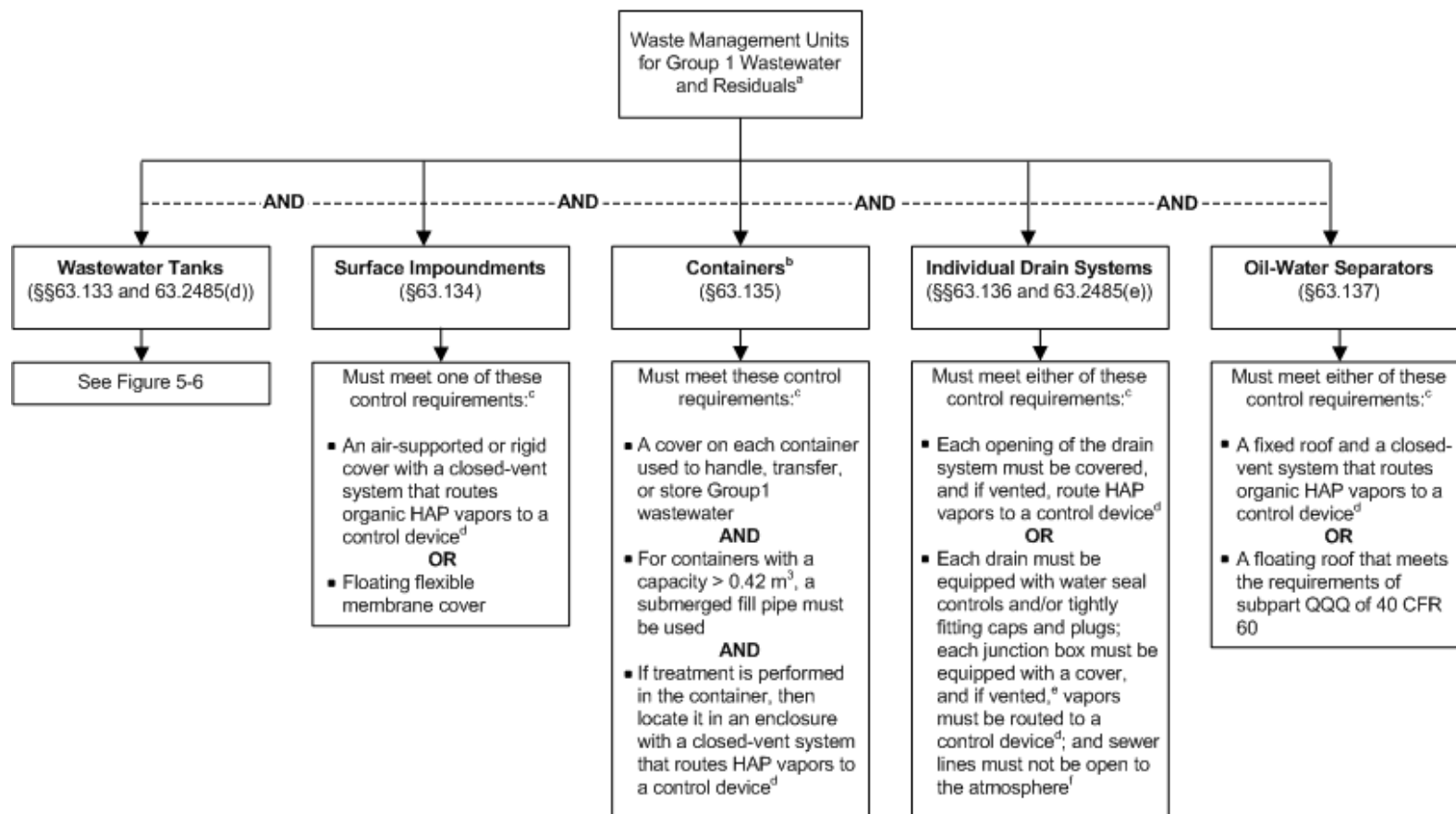


Figure 5-3. Determination of group status for process wastewater streams.



^a An exemption for specific waste management units is illustrated in Figure 5-5.

^b Requirements apply only to containers with capacity $\geq 0.1 \text{ m}^3$. See Appendix B for definition of "container."

^c Part of the requirements for each WMU includes periodic inspections for improper work practices and control equipment failures and any necessary repairs. See the checklist in Table 5-8.

^d The control device must reduce total organic HAP by $\geq 95\%$ or to an outlet TOC or organic HAP concentration $\leq 20 \text{ ppmv}$. Note that the 20 ppmv option is not allowed for noncombustion devices used to control emissions from surface impoundments and containers. Alternatively, the control device may be a combustion device with a residence time ≥ 0.5 seconds and a temperature $\geq 760^\circ\text{C}$, or a flare that meets the conditions in §63.11(b), or a RCRA-permitted unit. Closed-vent systems may meet the requirements in §63.172 or §63.1034 (see §63.2485(f)).

^e Venting to the atmosphere is allowed under certain conditions as specified in §63.136(e)(2)(ii) and §63.2485(n)(3).

^f Venting to the atmosphere is allowed under certain conditions as specified in §63.2485(e).

Figure 5-4. Emission suppression requirements for waste management units.

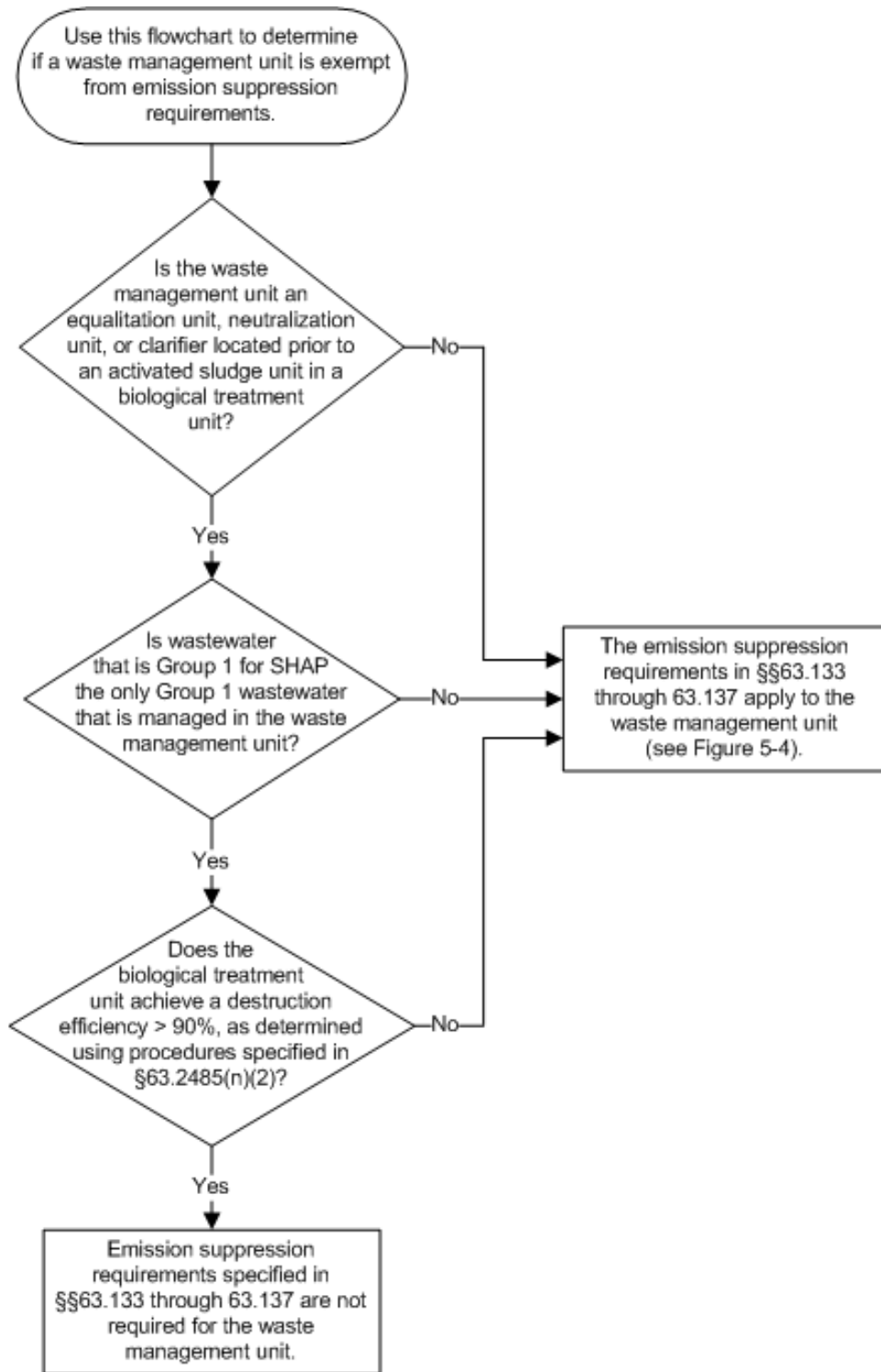
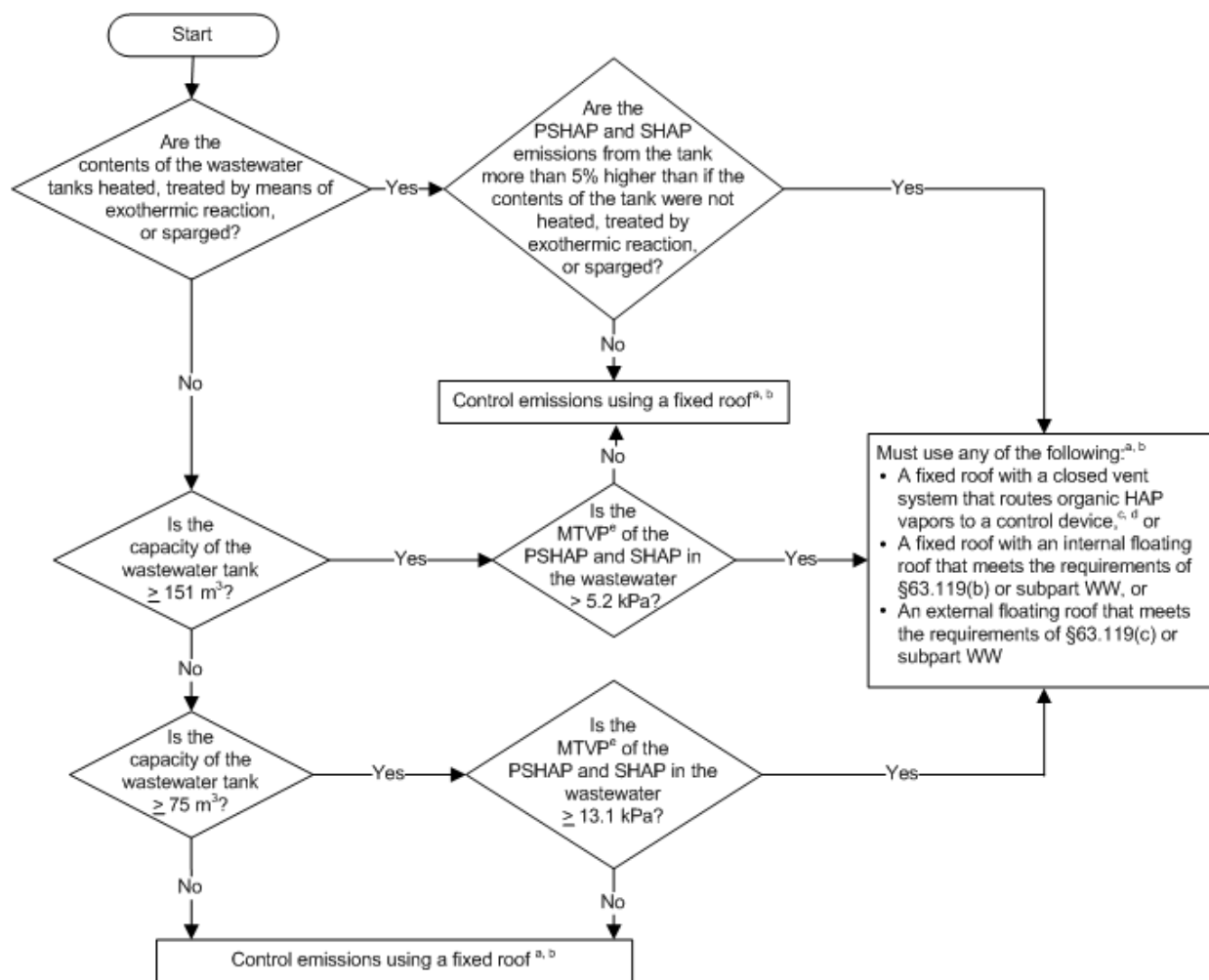


Figure 5-5. Exception to emission suppression requirements.



^a Note that an exception to these emission suppression requirements is allowed for wastewater tanks that meet conditions described in Figure 5-5.

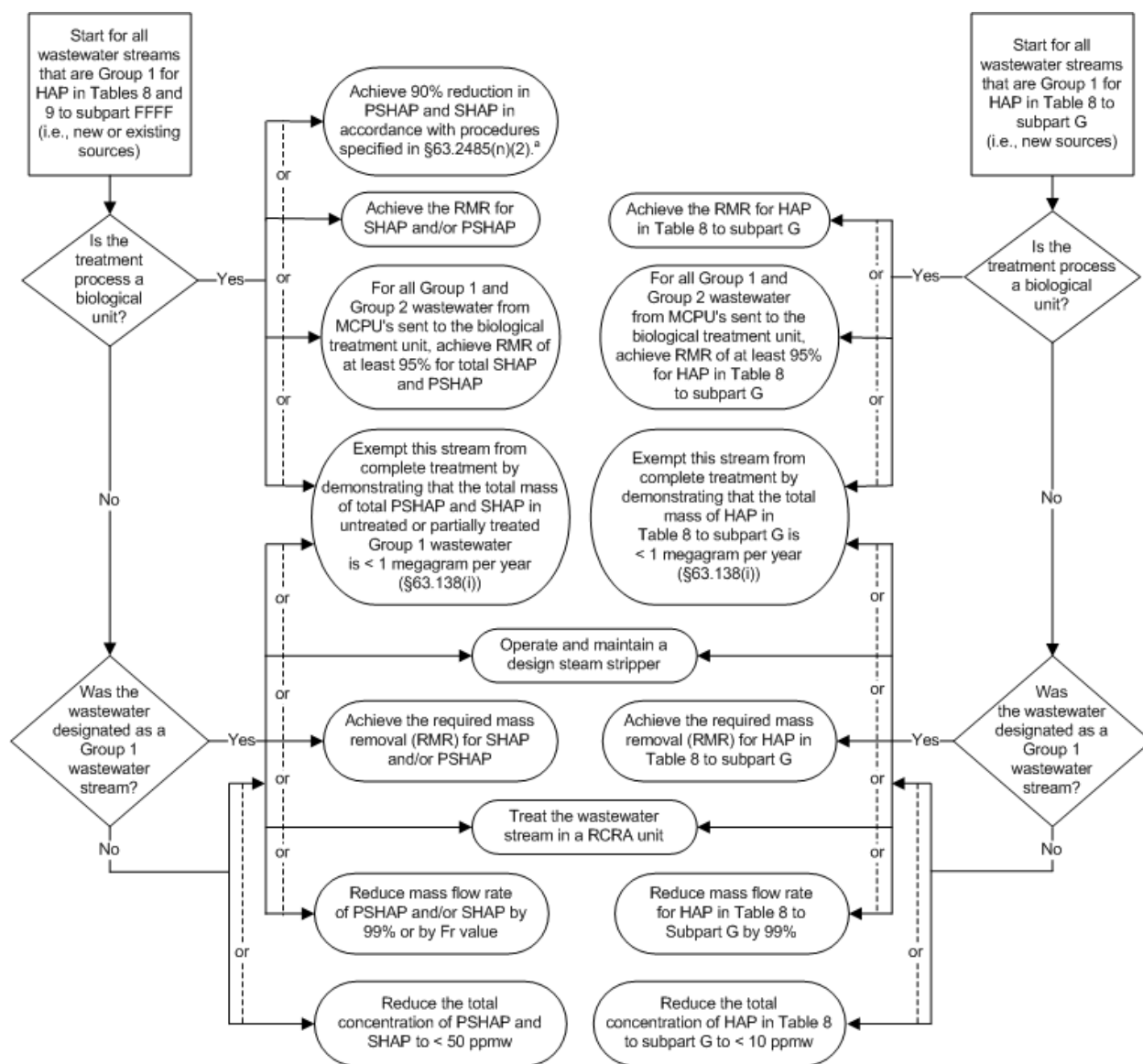
^b Periodic inspections and repairs for improper work practices and control equipment failures are required.

^c The control device must reduce total organic HAP by $\geq 95\%$ or to an outlet TOC or organic HAP concentration ≤ 20 ppmv. Alternatively, the control device may be a combustion device with a residence time ≥ 0.5 seconds and a temperature $\geq 760^\circ\text{C}$, or a flare that meets the conditions in §63.11(b), or a RCRA-permitted unit. Section 63.2485(d)(4) specifies that control device limits do not apply for up to 240 hr/yr of planned routine maintenance (extendable to 360 hr/yr with approval).

^d Closed-vent systems may meet the requirements in §63.172 or §63.1034 (see §63.2485(f)).

^e MTVP means maximum true vapor pressure.

Figure 5-6. Requirements for wastewater tanks.



Notes:

- PSHAP means partially soluble HAP listed in Table 8 to subpart FFFF.
- SHAP means soluble HAP listed in Table 9 to subpart FFFF.
- RMR (required mass removal) is a function of the density and flowrate of the wastewater stream and the concentration and Fr value of each HAP in the stream. For more information, see §63.145.

^a Note that this option is allowed only if wastewater is Group 1 only for SHAP. Moreover, this option specifies collection system design criteria in §63.2485(n)(1), and PSHAP in Group 2 streams that are combined with the streams that are Group 1 for SHAP also must be included in the 90% destruction efficiency. Wastewater that is Group 1 for PSHAP may be treated by other means to meet the treatment requirements for PSHAP prior to complying with this option for SHAP, as specified in §63.2485(n)(4).

Figure 5-7. Treatment requirements for process wastewater streams.

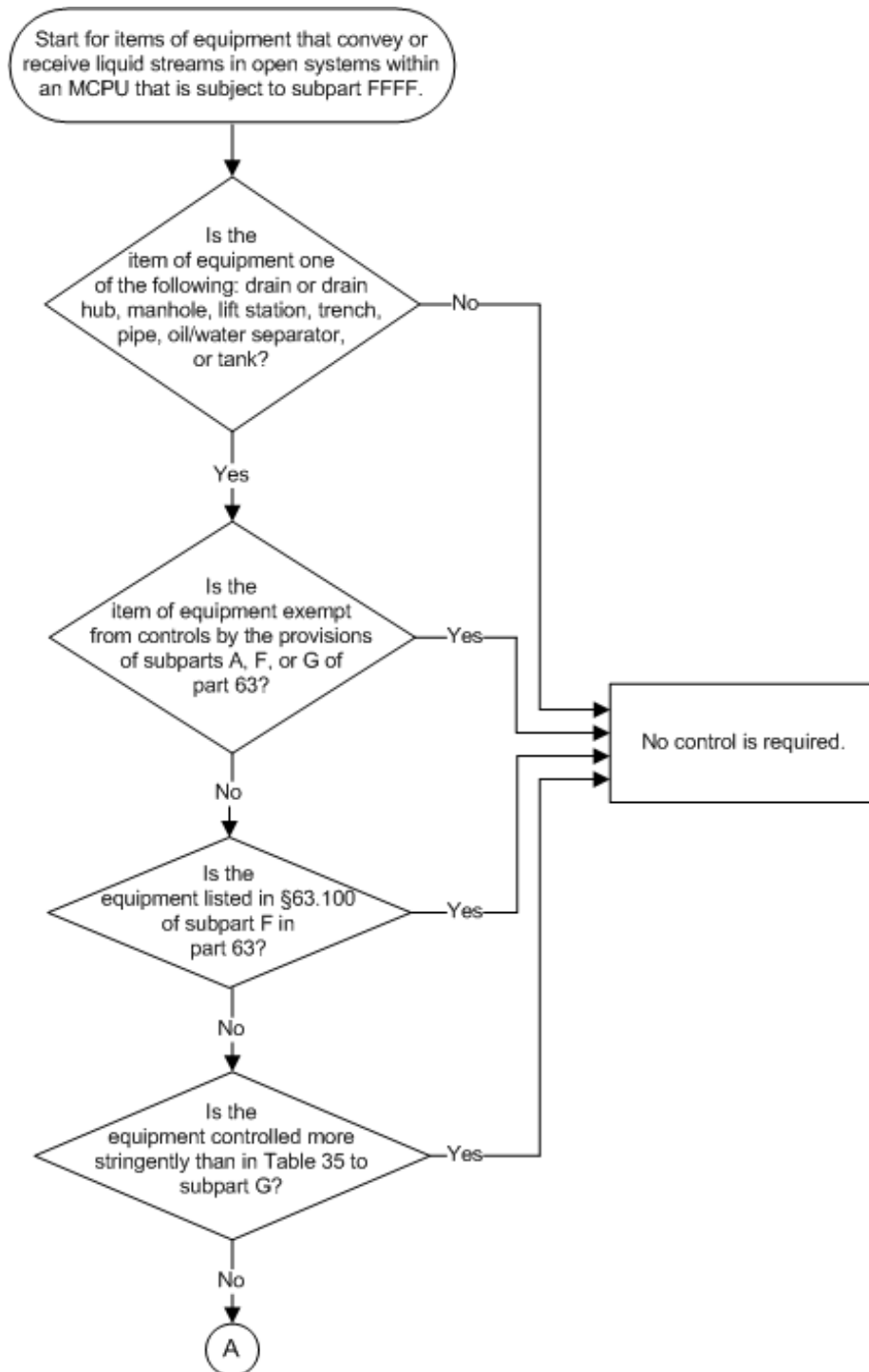


Figure 5-8. Applicability for process equipment that manages liquid streams in open systems within an MCPU.

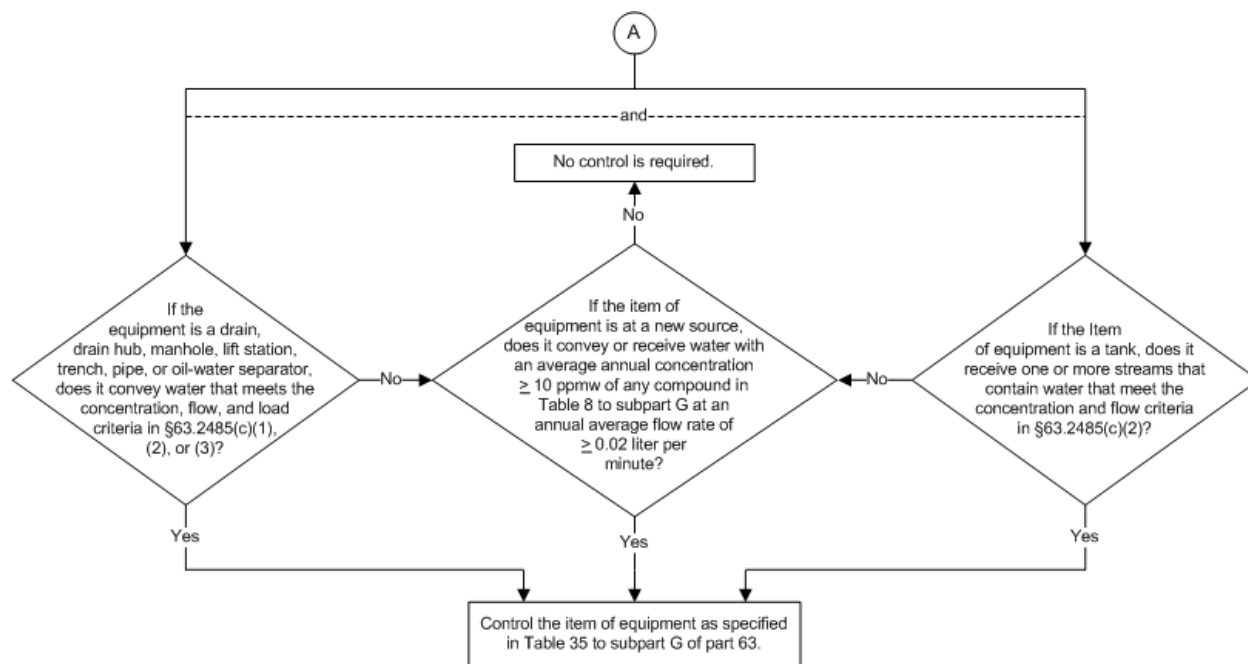
**Figure 5-8. (continued)**

Table 5-1. Inspection Checklist for Wastewater Streams and Residuals Subject to Subpart FFFF

Note: Use this checklist for each of the following types of streams that are subject to subpart FFFF:

- Group 1 wastewater streams
- Residuals from Group 1 wastewater streams
- Group 2 wastewater streams that are combined with a Group 1 wastewater stream for which compliance is based on the 95 percent RMR option in §63.138(g) for biological treatment, or the 90 percent reduction option in §63.2485(n).

Note: Records of other Group 2 determinations must be included in the notification of compliance status report (see the checklist in Table 12-1).

1. Wastewater Stream and Residual Identification: _____

Note: Identify all streams (wastewater and residuals) that are discharged to the same drain system and conveyed to the same treatment unit.

2. Which of the following WMUs, including treatment processes, are used to convey, store, or treat the identified wastewater stream(s) and/or residual(s)? *Check all that apply. For example, note that a tank that is used to operate a closed biological treatment process, and for which initial compliance was not demonstrated in accordance with §63.145(f) or (g), is subject to the emission suppression requirements for a wastewater tank as well as the requirements for biological treatment processes. §63.138(a)(3)*

- ☐ Wastewater tank (see Table 5-2 for appropriate checklists)
- ☐ Surface impoundment (see Table 5-2 for appropriate checklists)
- ☐ Container (see Table 5-2 for appropriate checklists)
- ☐ Individual drain system (see Table 5-2 for appropriate checklists)
- ☐ Oil-water separator (see Table 5-2 for appropriate checklists)
- ☐ Steam stripper treatment unit (use the checklist in Table 5-10)
- ☐ Other treatment units (use the checklist in Table 5-11)

3. Which WMUs in the wastewater system for the identified wastewater stream(s) and/or residual(s) are exempt from emission suppression requirements? *Check all that apply; if any apply, use the checklists in Tables 5-9 and 5-11 in addition to other applicable checklists as noted in Table 5-2. §63.2485(n)*

- ☐ Wastewater tank
- ☐ Surface impoundment
- ☐ Clarifier
- ☐ None

RMR = required mass removal.

WMU = waste management unit.

Table 5-2. Applicable Checklists for Emission Suppression Options for Waste Management Units

Note: Use the guidance below to identify the appropriate inspection checklists to determine compliance with the emission suppression requirements for WMUs that manage, store, and/or treat Group 1 process wastewater streams and residuals.

Note: Appendix D to this document includes a tabular summary of inspection requirements (i.e., inspections for improper work practices, control equipment failures, and leaks) for all WMUs. The summary identifies the type of inspection (i.e., inspections for improper work practices, control equipment failures, and leaks), the section of the rule that requires the inspection, the required frequency of inspections, and the methods to use.

If the wastewater system includes a(n) ...	And emissions must be suppressed using ...	Then use the checklists in ...
wastewater tank ^a	a fixed roof with a closed-vent system routed to a control device, or	Tables 5-3, 5-8, 9-1, 9-2, and the applicable table in Section 10 for the specific control device that is used
	an EFR, or	Tables 5-3 and 4-2 ^c
	a fixed roof with an IFR, or an EFR converted to an IFR, or	Tables 5-3 and 4-3 ^c
	a fixed roof ^b	Table 5-3
surface impoundment ^a	a cover with a closed-vent system routed to a control device, or	Tables 5-4, 5-8, 9-1, 9-2, and the applicable table in Section 10 for the specific control device that is used
	a floating flexible membrane cover	Tables 5-4 and 5-8
container ^a	a cover, or	Tables 5-5 and 5-8
	a cover and enclosure with a closed-vent system to route emissions to a control device	Tables 5-5, 5-8, 9-1, 9-2, and the applicable table in Section 10 for the specific control device that is used
individual drain system	a cover and, if vented, emissions are routed to a process or through a closed-vent system to a control device, or	Tables 5-6, 5-8, and if a cover is vented to a control device, Tables 9-1, 9-2, and the table in Section 10 for the specific control device that is used
	water seal controls or a tightly fitting cap or plug for drains, tightly fitting solid covers or vented covers for junction boxes, and closed sewer lines	Tables 5-6, 5-8, and if a cover is vented to a control device, Tables 9-1, 9-2, and the table in Section 10 for the specific control device that is used
oil-water separator	a fixed roof and closed-vent system routed to a control device, or	Tables 5-7, 5-8, 9-1, 9-2, and the applicable checklist in Section 10 for the specific control device that is used
	a floating roof	Table 5-7

(continued)

Table 5-2. (continued)

EFR = external floating roof

IFR = internal floating roof

WMU = waste management unit.

^a The emission suppression requirements are not applicable if the WMU is also a biological treatment unit for which initial compliance with the treatment requirements is demonstrated by determining the fraction biodegraded in the treatment unit in accordance with §63.145(f) or (g). §63.138(a)(3)

^b See Figure 5-5 for conditions under which a fixed roof alone is sufficient.

^c Note that the rule citations in Tables 4-2 and 4-3 are for sections in subpart WW rather than subpart G; the requirements, however, are essentially the same in both subparts.

Table 5-3. Compliance Checklist for Inspections of Wastewater Tanks for Improper Work Practices and Control Equipment Failures

Note: A “yes” response to a question in this checklist means compliance with that requirement, and a “no” response means noncompliance with the requirement. If the requirement is not applicable, check the “N/A” box.

I. Review of Records

- | | |
|---|--|
| 1. Is the occurrence of each semiannual visual inspection of wastewater tanks for improper work practices recorded? §§63.133(f), 63.147(b)(1), and Table 11 to subpart G | <input type="checkbox"/> Y <input type="checkbox"/> N |
| 2. Is the occurrence of each semiannual visual inspection of wastewater tanks for control equipment failures recorded? §§63.133(g), 63.147(b)(1), and Table 11 to subpart G | <input type="checkbox"/> Y <input type="checkbox"/> N |
| <i>Note: See Appendix E for the types of control equipment failures listed in §63.133.</i> | |
| 3. If the wastewater tank is equipped with a fixed roof, and emissions are vented through a closed-vent system to a control device, is the occurrence of each semiannual sensory inspection for leaks recorded? §63.133(b)(1)(i), §63.147(b)(1), §63.148(b)(3), and Table 11 to subpart G | <input type="checkbox"/> Y <input type="checkbox"/> N/A <input type="checkbox"/> N |
| 4. If the wastewater tank is equipped with an IFR, is the occurrence of each periodic inspection of the seals recorded (see Table 4-3 for the schedule options)? §63.120(a)(2) and (3), §63.133(c), §63.147(b)(1), and Table 11 to subpart G | <input type="checkbox"/> Y <input type="checkbox"/> N/A <input type="checkbox"/> N |
| 5. If the wastewater tank is equipped with an EFR, is the occurrence of each inspection of the seals recorded (annually for the secondary seal and every 5 years for primary seals)? §63.133(d), §63.143(a), §63.147(b)(1), and Table 11 to subpart G | <input type="checkbox"/> Y <input type="checkbox"/> N/A <input type="checkbox"/> N |
| 6. For each inspection during which a control equipment failure (as defined in §63.133(g)(1)) was identified, were all of the following recorded and reported in the next compliance report: §63.146(c) | |
| (a) Date of the inspection? | <input type="checkbox"/> Y <input type="checkbox"/> N/A <input type="checkbox"/> N |
| (b) Identification of the wastewater tank having the failure? | <input type="checkbox"/> Y <input type="checkbox"/> N/A <input type="checkbox"/> N |
| (c) Description of the failure? | <input type="checkbox"/> Y <input type="checkbox"/> N/A <input type="checkbox"/> N |
| (d) Description of the nature of the repair? | <input type="checkbox"/> Y <input type="checkbox"/> N/A <input type="checkbox"/> N |
| (e) Date the repair was made? | <input type="checkbox"/> Y <input type="checkbox"/> N/A <input type="checkbox"/> N |
| 7. Are all records kept for at least 5 years? §63.10(b)(1) | <input type="checkbox"/> Y <input type="checkbox"/> N |

Table 5-3. (continued)**II. Visual Inspections**

- | | | |
|--|----------------------------|----------------------------|
| 1. Are all openings (e.g., hatches, sampling ports, and gauge wells) closed (e.g., covered by a lid) except when in use (e.g., it is in use during wastewater sampling or removal or for equipment maintenance, inspection, or repair)? §63.133(f) | <input type="checkbox"/> Y | <input type="checkbox"/> N |
|--|----------------------------|----------------------------|

III. Note All Deficiencies

EFR = external floating roof.
IFR = internal floating roof.

Table 5-4. Compliance Checklist for Inspections of Surface Impoundments for Improper Work Practices and Control Equipment Failures

Note: A “yes” response to a question in this checklist means compliance with that requirement, and a “no” response means noncompliance with the requirement. If the requirement is not applicable, check the “N/A” box.

I. Review of Records

1. Is the occurrence of each semiannual visual inspection of surface impoundments for improper work practices recorded? §§63.134(c), 63.147(b)(1), and Table 11 to subpart G ☐ Y ☐ N
 2. Is the occurrence of each semiannual visual inspection of surface impoundments for control equipment failures recorded? §§63.134(c), 63.147(b)(1), and Table 11 to subpart G ☐ Y ☐ N
- Note: See Appendix E for the types of control equipment failures listed in §63.134.*
3. For each inspection during which a control equipment failure (as defined in §63.134(c)(2)) was identified, were all of the following recorded and reported in the next compliance report: §63.146(c)
 - (a) Date of the inspection? ☐ Y ☐ N/A ☐ N
 - (b) Identification of the surface impoundment having the failure? ☐ Y ☐ N/A ☐ N
 - (c) Description of the failure? ☐ Y ☐ N/A ☐ N
 - (d) Description of the nature of the repair? ☐ Y ☐ N/A ☐ N
 - (e) Date the repair was made? ☐ Y ☐ N/A ☐ N
 4. Are all records kept for at least 5 years? §63.10(b)(1) ☐ Y ☐ N

II. Visual Inspections

1. If the surface impoundment contains Group 1 process wastewater, is the cover in use? §63.134(b)(1)(iii) and (b)(2)(vii) ☐ Y ☐ N/A ☐ N
2. Are all openings in a rigid air-supported cover (e.g., access hatches, sampling ports, and gauge wells) closed (e.g., covered by a lid) except when in use (e.g., it is in use during wastewater sampling or removal or for equipment maintenance, inspection, or repair)? §63.134(b)(1)(ii) and (c)(1) ☐ Y ☐ N/A ☐ N
3. If a flexible floating membrane is used, is it free of cracks, holes, gaps, or other open spaces between the cover section seams or between the interface of the cover edge and its foundation mountings? §63.134(b)(2)(iii), (vi), and (c)(2) ☐ Y ☐ N/A ☐ N
4. Are all openings in a floating membrane cover equipped with a closure device and secured in the closed position with no visible cracks, holes, gaps, or other open spaces in the closure device or between the perimeter of the cover opening and the closure device? §63.134(b)(2)(iv) and (c) ☐ Y ☐ N/A ☐ N

Table 5-4. (continued)**II. Visual Inspections**

5. If a floating membrane cover is used on the surface impoundment, are all of the following requirements met:
- (a) Is the cover floating on the liquid surface over the entire area of the liquid surface? §63.134(b)(2)(i) ☐ Y ☐ N/A ☐ N
- (b) Is the floating membrane cover made out of either of the following: §63.134(b)(2)(ii) ☐ Y ☐ N/A ☐ N
- high density polyethylene with a thickness of at least 2.5 millimeters, or
 - a material that has an equivalent organic permeability and integrity for the intended life of the floating roof cover?
6. If a floating membrane cover has emergency drains for storm water removal, are the drains equipped with either of the following: §63.134(b)(2)(v) ☐ Y ☐ N/A ☐ N
- (a) A slotted membrane fabric cover that covers at least 90 percent of the drain area opening, or
- (b) A flexible fabric seal?

III. Note All Deficiencies

Table 5-5. Compliance Checklist for Inspections of Containers for Improper Work Practices and Control Equipment Failures

Note: A “yes” response to a question in this checklist means compliance with that requirement, and a “no” response means noncompliance with the requirement. If the requirement is not applicable, check the “N/A” box.

I. Review of Records

1. Is the occurrence of each semiannual visual inspection of containers for improper work practices recorded? *§63.135(e), §63.147(b)(1), and Table 11 to subpart G* ☐ Y ☐ N
 2. Is the occurrence of each semiannual visual inspection of containers for control equipment failures recorded? *§63.135(e), §63.147(b)(1), and Table 11 to subpart G* ☐ Y ☐ N
- Note: See Appendix E for the types of control equipment failures listed in §63.135.*
3. For each inspection during which a control equipment failure (as defined in §63.135(e)(2)) was identified, were all of the following recorded and reported in the next compliance report: *§63.146(c)*
 - (a) Date of the inspection? ☐ Y ☐ N/A ☐ N
 - (b) Identification of the container having the failure? ☐ Y ☐ N/A ☐ N
 - (c) Description of the failure? ☐ Y ☐ N/A ☐ N
 - (d) Description of the nature of the repair? ☐ Y ☐ N/A ☐ N
 - (e) Date the repair was made? ☐ Y ☐ N/A ☐ N
 4. Are all records kept for at least 5 years? *§63.10(b)(1)* ☐ Y ☐ N
-

II. Visual Inspections

1. Do the containers have covers? *§63.135(b)* ☐ Y ☐ N
 2. Is all control equipment functioning properly (e.g., covers, and doors are not cracked, gapped, or broken)? *§63.135(e)* ☐ Y ☐ N
 3. Are the covers and all openings closed (e.g., covered by a lid) except when in use (e.g., an opening is in use during filling, removal, inspection, sampling, or pressure relief events related to safety)? *§63.135(b)(3) and (c)(2)* ☐ Y ☐ N
-

Table 5-5. (continued)**II. Visual Inspections**

4. For containers with a capacity greater than or equal to 0.1 m³ but less than or equal to 0.42 m³, are either of the following requirements met: §63.135(b)(2) ☐ Y ☐ N/A ☐ N
- (a) The container meets existing DOT specifications and testing requirements, or
- (b) The cover is inspected for leaks as specified in §63.148 (see checklist in Table 5-8)?
5. Are containers with a capacity greater than 0.42 m³ equipped with a submerged fill pipe that does not extend more than 6 in or within two fill pipe diameters of the bottom of the container while the container is being filled? §63.135(c)(1) ☐ Y ☐ N/A ☐ N
6. Whenever a container with a capacity greater than or equal to 0.1 m³ is used to treat a Group 1 wastewater stream or residual, and it is necessary for the container to be open, is the container located within an enclosure that has a closed-vent system to transport emissions to a control device? §63.135(d) ☐ Y ☐ N/A ☐ N

III. Note All Deficiencies

Table 5-6. Compliance Checklist for Inspections of Individual Drain Systems for Improper Work Practices and Control Equipment Failures

Note: A “yes” response to a question in this checklist means compliance with that requirement, and a “no” response means noncompliance with the requirement. If the requirement is not applicable, check the “N/A” box.

I. Review of Records

1. Are all of the following records kept when compliance is met by covering all openings in the drain system in accordance with §63.136(b) through (d)?

- | | | | |
|---|----------------------------|------------------------------|----------------------------|
| (a) A record of the occurrence of each semiannual visual inspection of the individual drain system for improper work practices? §63.136(c), §63.147(b)(1), and Table 11 to subpart G | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| (b) A record of the occurrence of each semiannual visual inspection of the individual drain system for control equipment failures? §63.136(c), §63.147(b)(1), and Table 11 to subpart G | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |

Note: See Appendix E for the types of control equipment failures listed in §63.136.

- (c) All of the following records for each inspection during which a control equipment failure (as defined in §63.136(c)(2)) was identified: §63.146(c)

- | | | | |
|---|----------------------------|------------------------------|----------------------------|
| • Date of the inspection? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| • Identification of the individual drain system having the failure? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| • Description of the failure? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| • Description of the nature of the repair? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| • Date the repair was made? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |

2. Are all of the following records kept when compliance is met by implementing separate requirements for drains, junction boxes, and sewers as specified in §63.136(e) through (g)?

- | | | | |
|---|----------------------------|------------------------------|----------------------------|
| (a) For drains with caps or plugs, documentation of the occurrence of each semiannual visual inspection to ensure that the caps or plugs are in place and properly installed? §§63.136(f)(1) and 63.147(b)(1) | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| (b) For drains with water seals, documentation of the occurrence of each semiannual verification that sufficient water is present to properly maintain the integrity of the water seal? §§63.136(e)(1)(i), 63.143(a), 63.147(b)(1), and Table 11 to subpart G | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| (c) Documentation of the occurrence of each semiannual visual inspection of junction boxes to ensure that there are no gaps, cracks, or other holes in the cover? §§63.136(f)(2) and 63.147(b)(1) | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
-

Table 5-6. (continued)

I. Review of Records			
(d) Documentation of the occurrence of each semiannual visual inspection of the unburied portion of each sewer line to ensure that there are no cracks or gaps that could result in air emissions? §63.136(f)(3) and 63.147(b)(1)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A	<input type="checkbox"/> N
3. Are all records kept for at least 5 years? §63.10(b)(1)	<input type="checkbox"/> Y	<input type="checkbox"/> N	
II. Visual Inspections			
1. Inspect all of the following items if all openings in the individual drain system are covered in accordance with §63.136(b) through (d):			
(a) Is the individual drain system designed and operated to segregate the vapors within the system from other drain systems and the atmosphere? §63.136(b)(5)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A	<input type="checkbox"/> N
(b) Are the cover and all openings (e.g., access hatches and sampling ports) kept closed except when in use (e.g., an opening is in use during sampling, removal, or equipment maintenance, inspection, or repair)? §63.136(b)(1)(ii)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A	<input type="checkbox"/> N
(c) Are the cover and all openings maintained in good condition? §63.136(c)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A	<input type="checkbox"/> N
2. Inspect all of the following items for drains that are to be in compliance with §63.136(e) through (g):			
(a) Is each drain equipped with either a water seal (e.g., p-trap or s-trap) or a tightly fitting cap or plug? §63.136(e)(1)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A	<input type="checkbox"/> N
(b) For each drain equipped with a water seal, is water present in the water seal? §63.136(e)(1)(i)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A	<input type="checkbox"/> N
(c) Is one of the following requirements met for each drain that is equipped with a water seal: §63.136(e)(1)(ii)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A	<input type="checkbox"/> N
<ul style="list-style-type: none"> Does the drain pipe discharging the wastewater extend below the liquid surface in the water seal, or Is a flexible shield (or other enclosure that restricts wind motion) installed that encloses the space between the discharge pipe and the drain receiving the wastewater? 			
3. Inspect all of the following items for junction boxes that are to be in compliance with §63.136(e) through (g):			
(a) Are the junction boxes equipped with tightly-fitting solid covers (vented or unvented) that are free of gaps, cracks, or holes? §63.136(e)(2)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A	<input type="checkbox"/> N
(b) If the covers are vented, are either of the following requirements met:	<input type="checkbox"/> Y	<input type="checkbox"/> N/A	<input type="checkbox"/> N

Table 5-6. (continued)**II. Visual Inspections**

- Is the vent pipe connected to a closed-vent system that transports emissions to a process or control device (see checklists in Tables 8-1, 8-2, and Section 9), or §63.136(e)(2)
- If vented to the atmosphere, is the vent pipe at least 90 centimeters in length, is the diameter of the vent pipe less than 10.2 centimeters, and is a water seal installed at the entrance or exit of the junction box? §63.136(e)(2)(ii)

Note: Venting to the atmosphere is allowed only if the junction box is filled and emptied by gravity flow or it is operated with only slight fluctuations in the liquid level. Also, the specified vent pipe dimensions do not apply for a lift station that is larger than 10,000 gal and used in a system complying with §63.2485(n). See the checklist in Table 5-9.

4. If the individual drain system is to be in compliance with §63.136(e) through (g), are the sewer lines enclosed or covered in a manner so that there are no visible gaps or cracks in joints, seals, or other emission interfaces? ☐ Y ☐ N/A ☐ N
§63.136(e)(3)

Note: A sewer line that is connected to drains that are water sealed or equipped with a tightly fitting cap or plug in accordance with §63.136(e)(1) may be vented to the atmosphere if the sewer line entrance to the first downstream junction box is water sealed and the vent pipe is at least 90 cm in length and no greater than 10.2 cm in nominal inside diameter.
§63.2485(e)(1)

III. Note All Deficiencies

Table 5-7. Compliance Checklist for Inspections of Oil-Water Separators for Improper Work Practices and Control Equipment Failures

Note: A “yes” response to a question in this checklist means compliance with that requirement, and a “no” response means noncompliance with the requirement. If the requirement is not applicable, check the “N/A” box.

I. Review of Records

- | | | |
|---|----------------------------|---|
| 1. Is the occurrence of each semiannual visual inspection of the individual drain system for improper work practices recorded? §§63.137(d) and 63.147(b)(1) | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| 2. Is the occurrence of each semiannual visual inspection of the oil-water separator for control equipment failures recorded? §§63.137(e) and 63.147(b)(1) | <input type="checkbox"/> Y | <input type="checkbox"/> N |
| <i>Note: See Appendix E for the types of control equipment failures listed in §63.137.</i> | | |
| 3. For each inspection during which a control equipment failure (as defined in §63.137(e)) was identified, was all of the following information recorded and reported in the next compliance report: §63.146(c) | | |
| (a) Date of the inspection? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A <input type="checkbox"/> N |
| (b) Identification of the individual drain system having the failure? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A <input type="checkbox"/> N |
| (c) Description of the failure? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A <input type="checkbox"/> N |
| (d) Description of the nature of the repair? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A <input type="checkbox"/> N |
| (e) Date the repair was made? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A <input type="checkbox"/> N |
| 4. If the oil-water separator is equipped with a floating roof, do records indicate all of the following: | | |
| (a) That seal gap measurements were performed annually for the secondary seal? §§63.137(c)(2) and 63.147(b)(1) | <input type="checkbox"/> Y | <input type="checkbox"/> N/A <input type="checkbox"/> N |
| (b) That seal gap measurements were performed every 5 years for the primary seal? §§63.137(c)(1) and 63.147(b)(1) | <input type="checkbox"/> Y | <input type="checkbox"/> N/A <input type="checkbox"/> N |
| (c) The results of each seal gap measurement (i.e., the date of measurement, raw data obtained, and calculations performed)? §63.147(b)(3) | <input type="checkbox"/> Y | <input type="checkbox"/> N/A <input type="checkbox"/> N |
| 5. Are all records kept for at least 5 years? §63.10(b)(1) | <input type="checkbox"/> Y | <input type="checkbox"/> N |
-

Table 5-7. (continued)

II. Visual Inspections			
Note:	If the oil-water separator is equipped with a floating roof, the inspector should not perform the inspection without proper respiratory protection if the roof is below 4 feet of the top of the separator. Based on the inspector's assessment of the availability of records documenting the design of the control equipment, an adequate inspection without respiratory protection may be performed with a combination of a record inspection and a visual inspection conducted from the platform with the aid of vision-enhancing devices (binoculars). If the inspector feels that it is necessary to be on the EFR when the roof is below 4 feet of the top of the tank, please be aware of the requirements under EPA Order 1440.2 (required only for Agency personnel) and the safety information in <i>Guidance on Confined Space Entry in NESHAP Inspections of Benzene Storage Vessels</i> (EPA 455/R-92-003, September 1992).		
Note:	Answer all questions in this section if the oil-water separator is equipped with a floating roof. If it is equipped with a fixed roof that is vented to a control device, answer only questions 1 through 3.		
Note:	The requirements in §60.693-2(a) are referenced from §63.137(a)(2).		
1.	Are all openings in the fixed or floating roof equipped with a gasketed cover, seal, or lid? §63.137(b)(1)(ii) and 60.693-2(a)(2)	<input type="checkbox"/> Y	<input type="checkbox"/> N
2.	Are all openings kept closed except when in use (e.g., an opening is in use during sampling, removal of material, inspection, maintenance, or repair)? §63.137(b)(1)(ii) and (d) for fixed roofs, and §60.693-2(a)(2) for floating roofs	<input type="checkbox"/> Y	<input type="checkbox"/> N
	<i>Note: Section 60.693-2(a)(2) only allows openings for inspection and maintenance.</i>		
3.	Are gaskets, joints, lids, covers, and doors in good condition (i.e., not cracked, gapped, or broken)? §63.137(e)(1)(vii)	<input type="checkbox"/> Y	<input type="checkbox"/> N
4.	Is the floating roof resting on the liquid surface of the stored material, except during abnormal conditions (i.e., low flow rates)? §63.137(e)(1)(i) and 60.693-2(a)(3)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A <input type="checkbox"/> N
5.	Is the floating roof in good condition (i.e., free of defects such as corrosion and pools of standing liquid)? §63.137(e)(1)(ii)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A <input type="checkbox"/> N
6.	Is a secondary seal installed above the primary seal for the floating roof? §§63.137(a)(2) and 60.693-2(a)(1)(i) and (ii)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A <input type="checkbox"/> N
7.	Does the secondary seal meet all of the following requirements:		
(a)	Is the seal and seal fabric free of holes, tears, and other openings? §63.137(e)(1)(iv)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A <input type="checkbox"/> N
(b)	Is the seal continuously attached along the edge of the floating deck? §63.137(e)(1)(iii)	<input type="checkbox"/> Y	<input type="checkbox"/> N/A <input type="checkbox"/> N

Table 5-7. (continued)

II. Visual Inspections

- (c) Does the seal completely cover the space between the edge of the floating roof and the oil-water separator wall, except as allowed by both of the following: §§63.137(e)(1)(vi) and 60.693-2(a)(1)(ii)
- Is the total gap area between the separator wall and the secondary seal less than or equal to 6.7 square centimeters per meter of the separator wall perimeter? ☐ Y ☐ N/A ☐ N
 - Is the maximum gap width between the separator wall and the seal less than or equal to 1.3 centimeters at all points along the separator wall perimeter? ☐ Y ☐ N/A ☐ N
8. Does the primary seal meet all of the following requirements:
- (a) Is the primary seal either a liquid-mounted seal or a mechanical shoe seal? §§60.693-2(a)(1)(i) ☐ Y ☐ N/A ☐ N
- (b) Is the seal fabric, seal envelope, or shoe (if a metallic shoe is used) free of holes, tears, and other openings? §63.137(e)(1)(iv) ☐ Y ☐ N/A ☐ N
- (c) If the primary seal is a liquid-mounted seal (e.g., foam or liquid-filled seal), is the seal in contact with the liquid between the wall of the oil-water separator and the floating roof? §60.693-2(a)(1)(i)(A) ☐ Y ☐ N/A ☐ N
- (d) Does the primary seal form a continuous closure that completely covers the annular space between the wall of the oil-water separator and the edge of the floating roof, except as allowed by both of the following: §§63.137(e)(1)(v) and 60.693-2(a)(1)(i)(B) and (C)
- Is the total gap area between the wall of the oil-water separator and the primary seal less than or equal to 67 square centimeters per meter of the separator wall perimeter? ☐ Y ☐ N/A ☐ N
 - Is the maximum gap width between the wall of the oil-water separator and the seal less than or equal to 3.8 centimeters at all points along the separator wall perimeter? ☐ Y ☐ N/A ☐ N
9. If the floating roof is equipped with one or more emergency roof drains for removal of stormwater, is each emergency roof drain equipped with either of the following: §60.693-2(a)(4) ☐ Y ☐ N/A ☐ N
- (a) A slotted membrane fabric cover that covers at least 90 percent of the drain opening area, or
- (b) A flexible fabric sleeve seal?
-

III. Note All Deficiencies

Table 5-7. (continued)

III. Note All Deficiencies

Table 5-8. Compliance Checklist for Inspection of Covers, Enclosures, and Fixed Roofs for Leaks

Note: A “yes” response to a question in this checklist means compliance with that requirement, and a “no” response means noncompliance with the requirement. If the requirement is not applicable, check the “N/A” box.

Note: This checklist does not apply to covers, fixed roofs, and enclosures that are maintained under negative pressure. §§63.133(b)(4), 63.134(b)(5), 63.135(d)(4), 63.136(b)(4), and 63.137(b)(4)

I. Review of Records

1. Do records identify all parts of the covers, fixed roofs, and enclosures that are designated as unsafe to inspect or difficult to inspect, and do the records explain why these designations were assigned? §63.148(i)(1) and (2) ☐ Y ☐ N/A ☐ N
 2. Does the facility have a written plan for inspecting the unsafe-to-inspect parts of the covers, fixed roofs, and enclosures as frequently as practicable? §63.148(g)(2) and (i)(1) ☐ Y ☐ N/A ☐ N
 3. Does the facility have a written plan for inspecting the difficult-to-inspect parts of the covers, fixed roofs, and enclosures at least once every 5 years? §63.148(h)(2) and (i)(2) ☐ Y ☐ N/A ☐ N
 4. For each inspection during which no leaks were detected, do records document the occurrence and date of the inspections along with a statement that no leaks were detected? §63.148(b)(3) and (i)(6) ☐ Y ☐ N/A ☐ N
 5. For each inspection during which a leak was detected, do records document all of the following information: §63.148(i)(4)
 - (a) Operator name or initials, and identification of the leaking equipment? ☐ Y ☐ N/A ☐ N
 - (b) Date the leak was detected? ☐ Y ☐ N/A ☐ N
 - (c) Date of the first attempt at repair? ☐ Y ☐ N/A ☐ N

Note: The first attempt at repair must be no later than 5 calendar days after the leak was detected. §63.148(d)(1)

 - (d) Maximum instrument reading measured by Method 21 after the leak was repaired or determined to be nonreparable? ☐ Y ☐ N/A ☐ N
 - (e) All of the following if the leak was not repaired within 15 calendar days after the leak was discovered:
 - Reason for the delay? ☐ Y ☐ N/A ☐ N
 - Name, initials, or other form of identification of the person who decided repairs could not be made without a shutdown? ☐ Y ☐ N/A ☐ N
-

Table 5-8. (continued)

I. Review of Records		
• Expected date of successful repair?	<input type="checkbox"/> Y	<input type="checkbox"/> N/A <input type="checkbox"/> N
<i>Note: Delay of repair until the next shutdown is allowed if the repair is technically infeasible without a shutdown, or if the emissions from immediate repair would be greater than the fugitive emissions likely from delay. §63.148(e)</i>		
(f) Dates of shutdowns that occur while the equipment is unrepaired?	<input type="checkbox"/> Y	<input type="checkbox"/> N/A <input type="checkbox"/> N
(g) Date of successful repair of the leak?	<input type="checkbox"/> Y	<input type="checkbox"/> N/A <input type="checkbox"/> N
6. Are all records kept for at least 5 years? §63.10(b)(1)	<input type="checkbox"/> Y	<input type="checkbox"/> N
II. Note All Deficiencies		

Table 5-9. Checklist for Compliance with Alternative Requirements for Wastewater that Is Group 1 Only for Soluble HAP

Note: Use this checklist for wastewater systems with an equalization unit, neutralization unit, and/or clarifier that are exempt from the emission suppression requirements in accordance with §63.2485(n). Also use the checklist in Table 5-11 for the biological treatment unit, and use checklists in Tables 5-3 through 5-7 for WMUs that are not exempt.

Note: A “yes” response to a question indicates compliance with that requirement, and a “no” response indicates noncompliance with the requirement.

Treatment Unit Identification: _____

I. Review of Records

1. Do records show the overall destruction efficiency of total PSHAP and SHAP is calculated using Equation 1 in §63.2485(n)(2) and the destruction efficiency is >90 percent? §63.2485(n) ☐ Y ☐ N

Note: Streams that are Group 1 for PSHAP may be treated in accordance with the requirements specified in Table 7 to subpart FFFF and then combined with streams that are Group 1 only for SHAP. The combined stream may comply with these alternative treatment requirement, and the PSHAP remaining after treatment in accordance with the Table 7 requirements does not need to be included in the destruction efficiency calculation under this alternative. §63.2485(n)(4)

2. Are all required records kept for at least 5 years? §63.10(b)(1) ☐ Y ☐ N

II. Visual Inspection

1. Are connections between the equalization unit, neutralization unit, and/or clarifier and the activated sludge unit made with hard piping? §63.2485(n)(1) ☐ Y ☐ N

Note: The requirement for hard piping does not apply when transfer between any of these types of units when the units are part of the same structure and one unit overflows into the next.

III. Note All Deficiencies

Table 5-10. Compliance Checklist for Steam Strippers

Note: A “yes” response to a question in this checklist means compliance with that requirement, and a “no” response means noncompliance with the requirement. If the requirement is not applicable, check the “N/A” box.

Steam Stripper Identification: _____

I. Review of Records

1. Do records document that the facility continuously monitors all of the following parameters, unless approval to monitor alternative parameters has been granted: §63.143(b) and Table 12 to subpart G
 - (a) Steam flow rate? ☐ Y ☐ N/A ☐ N
 - (b) Wastewater mass flow rate? ☐ Y ☐ N/A ☐ N
 - (c) Either wastewater feed temperature or column temperature? ☐ Y ☐ N/A ☐ N
 2. For the continuously monitored parameters identified in item 1 above, does the facility maintain records of continuously monitored parameters in one of the following formats: §63.147(d) and 63.152(f)(2) and (3)
 - (a) All measured values, or ☐ Y ☐ N/A ☐ N
 - (b) All block average values for 15-minute or shorter periods calculated from all measured data values during each period (or from at least one measured data value per minute if measured more frequently than once per minute), or
 - (c) All continuous records for only the current operating day, and block hourly average values for earlier data?

Note: To use the third option, the daily average must be within the established range.
 3. Does the facility keep records of either the daily averages of each of the parameters in item 1 above or a statement that all values were within the established operating range? §63.147(d) and 63.152(f)(6) ☐ Y ☐ N/A ☐ N
 4. As an alternative to items 3 and 4 above, does the facility meet both of the following requirements: §63.152(g)(1)(i) through (vi)
 - (a) Document in their notification of compliance status report or compliance report that they were implementing this alternative? ☐ Y ☐ N/A ☐ N
 - (b) Retain only the daily average? ☐ Y ☐ N/A ☐ N

Note: No record of the daily average is required if 6 months have passed without an excursion. §63.152(g)(2)
 5. If the facility applied for and received approval to monitor parameters other than those listed in item “2” of this checklist, is the facility performing the approved recordkeeping and reporting? §63.147(e) ☐ Y ☐ N/A ☐ N
 6. Are all records kept for at least 5 years? §63.10(b)(1) ☐ Y ☐ N
-

Table 5-10. (continued)**II. Visual Inspections**

1. Are overheads from the steam stripper vented through a closed-vent system to a control device that meets the requirements of §63.139 (see checklists in Tables 9-1 and 9-2 for the closed-vent system and the appropriate checklist in Section 10 for the specific control device)? §63.138(a)(5) ☐ Y ☐ N/A ☐ N
2. If the steam stripper is a design steam stripper, does it meet all of the following requirements: §63.138(d)
 - (a) Is the minimum active column height at least 5 meters? ☐ Y ☐ N/A ☐ N
 - (b) Does the countercurrent flow configuration have at least 10 actual trays? ☐ Y ☐ N/A ☐ N
 - (c) Is the steam flow rate at least 0.04 kilograms of steam per liter of wastewater feed? ☐ Y ☐ N/A ☐ N
 - (d) Is the temperature of the wastewater feed to the steam stripper (or the column temperature) at least 95°C? ☐ Y ☐ N/A ☐ N
 - (e) Is the wastewater liquid loading no greater than 67,100 liters per hour per square meter? ☐ Y ☐ N/A ☐ N
 - (f) Does the steam stripper operate at nominal atmospheric pressure? ☐ Y ☐ N/A ☐ N

III. Note All Deficiencies

Table 5-11. Compliance Checklist for Treatment Processes Other than Steam Strippers

Note: A “yes” response to a question in this checklist means compliance with that requirement, and a “no” response means noncompliance with the requirement. If the requirement is not applicable, check the “N/A” box.

Treatment Process Identification: _____

I. Review of Records

1. Does the facility keep records as approved by the Administrator? ☐ Y ☐ N
§63.147(b)(4)
2. For each parameter approved by the permitting authority that is required to be monitored continuously, are records of the daily average value kept? ☐ Y ☐ N/A ☐ N
§63.147(d)
3. If the facility has a biological treatment process and calculates the AMR based on the fraction biodegraded, are records kept of the F_{bio} determination? ☐ Y ☐ N/A ☐ N

Note: F_{bio} does not have to be determined for enhanced biological treatment processes that meet the requirements in §63.145(h)(1)(ii).

4. Are all records kept for at least 5 years? §63.10(b)(1) ☐ Y ☐ N
-

II. Visual Inspection

1. Are all gas streams from the treatment process vented through a closed-vent system to a control device that meets the requirements of §63.139 (see checklists in Tables 9-1 and 9-2 for the closed-vent system and the appropriate checklist in Section 10 for the specific control device)? §63.138(a)(5) ☐ Y ☐ N ☐ N/A

Note: An open or closed biological treatment unit for which compliance is demonstrated in accordance with §63.145(f) or (g) does not have to be vented to a control device that meets the requirements of §63.139. §63.138(a)(3)

Note: Another exception to the requirements in §63.139 is that a vent from an anaerobic biological treatment unit may be routed through hard-piping to a fuel gas system. §63.138(a)(5)

2. Are monitoring devices present to conduct monitoring that was approved by the Administrator or permitting authority? §63.143(c) and (d) ☐ Y ☐ N ☐ N/A
-

III. Note All Deficiencies

AMR = actual mass removal.

Table 5-12. Compliance Checklist for Equipment Handling In-Process Liquid Streams

Note: This checklist applies only to equipment of the type listed in Table 35 to subpart G that handle streams within the MCPU that have the flow and concentration characteristics of a Group 1 process wastewater stream.

Note: A “yes” response to a question in this checklist means compliance with that requirement, and a “no” response means noncompliance with the requirement. If the requirement is not applicable, check the “N/A” box.

I. Visual Inspections^a

- | | | | |
|--|----------------------------|------------------------------|----------------------------|
| 1. Is each tank with a capacity $\geq 38 \text{ m}^3$ equipped with a fixed roof? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| 2. Are all drains and drain hubs equipped with either tightly fitting solid covers or water seals? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| 3. Do drains and drain hubs that are equipped with water seals also have either a submerged discharge or a barrier to protect the discharge from the wind? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| 4. Are all tightly fitting solid covers for drains, drain hubs, manholes, lift stations, and trenches free of visible gaps or openings, except during periods of sampling, inspection, or maintenance? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| 5. For all tightly fitting solid covers with water seals and an atmospheric vent, are the vent pipes at least 90 cm in length with a nominal inside diameter less than or equal to 10.2 cm? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
| 6. For lift stations with tightly fitting solid covers and water seals, is the lift station level controlled to minimize changes in liquid level? | <input type="checkbox"/> Y | <input type="checkbox"/> N/A | <input type="checkbox"/> N |
-

II. Note All Deficiencies

^a All requirements are from Table 35 to subpart G.